This Page Is Inserted by IFW Operations and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents will not correct images, please do not report the images to the Image Problem Mailbox.



SEQUENCE LISTING

<110> Kim, Jungsuh P.
Starr, Douglas B.
Tam, Albert W.
Laurance, Megan E.
Michelotti, Emil F.
Velligan, Mark D.
Latour, Derek R.
Thomas, Rita L.
Kongpachith, Ana
Sheppard, Liana T.
Lim, Moon Young
Bruice, Thomas W.

<120> PROMOTERS FOR REGULATED GENE EXPRESSION

<130> 54600-8135.US00

<140> US 09/875,453

<141> 2001-06-06

<150> US 60/209,549

<151> 2000-06-06

<160> 246

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1903

<212> DNA

<213> Homo sapiens

<400> 1

60 cagetqqqcc qccettqtqc qcqqqctqat qctctqaqqc ttqqctatqc qqqqqccaac 120 qcqattqtqq qtqctcqqqq aqtqqqqqqq qqcacqaccq taqqtqctcc ctqctqqqqc aacccatcgc tccccatgcg gaatccgggg gtaattaccc ccccaggacc cggaatatta 180 240 gtaatcctaa ttcccggcgg gggaggggc gcgggaggaa ttcaccctga aaggtggggg tggggggggt cgcatcttgc tgtgagcacc ctggcgaagg ggagagggct ttttctatca 300 gttttctttg agcttttact gttaagaggg tacggtggtt tgatgacact gaactatatt 360 420 caaaaggaag taaatgaaca gttttcttaa tttggggcag gtactgtaaa aataaaaaca 480 aaagttaaga cagtaaaatg teettttatt ttttaatgea eeaaagagae agaacetgta 540 attttaaaaa ctgtgtattt taatttacat ctgcttaagt ttgcgataat attggggacc 600 ctctcatgta accacgaaca cctatcgatt ttgctaaaaa tcagatcagt acactcgttt 660 qtttaattqa taattqttct qaattatqcc qqctcctqcc aqccccctca cqctcacqaa ttcaqtccca qqqcaaattc taaaqqtqaa qqqacqtcta cacccccaac aaaaccaatt 720 aggaacttcg gtggtcttgt cccaggcaga ggggactaat atttccagca atttaatttc 780 ttttttaatt aaaaaaatg agtcagaatg gagatcactg tttctcagct ttccattcag 840 aggtgtgttt ctcccggtta aattgccggc acgggaaggg agggggtgca gttggggacc 900 cccgcaagga ccgactggtc aaggtaggaa ggcagcccga agagtctcca ggctagaagg 960 acaagatgaa ggaaatgctg gccaccatct tgggctgctg ctggaatttt cgggcattta 1020 1080 ttttatttta ttttttgagc gagcgcatgc taagctgaaa tccctttaac ttttagggtt accccttgg gcatttgcaa cgacgcccct gtgcgccgga atgaaacttg cacaggggtt 1140 1200 gtgtgcccgg tcctccccgt ccttgcatgc taaattagtt cttgcaattt acacgtgtta 1260 atgaaaatga aagaagatgc agtcgctgag attctttggc cgtctgtccg cccgtgggtg ccctcqtqqc qttcttqqaa atqcqcccat tctqccqqct tqqatatqqq qtqtcqccqc 1320

- }/) i
۹,	

Ţ

gccccagtca ccccttctcg tggtctcccc agg gtcccctact gcagagccac ctccacctca ccc cggacgggc cccctgcacc cctcttccct ggc tgcattcta tgaaaaccgg actacagggg caa cagggatggc ttttgggctc tgccctcgc tgc ccccttgcg ccgccccgc cccctcccg ctc cttaacaaca gtaacgtcac acggactaca gggagcctccag agggctgtcg gagcggggg cag aggggagaa gagcgcgagg gagcgcgggg cag gccaggaccc acagccctcc ccagctgccc agg	cectaaat ceeggggac ceaetegagg 1440 eggggaga aaggetgeag eggggegatt 1500 acteegee geagggeagg egeggeeet 1560 etecegge gtttggegee egegeeeet 1620 eccattet etgeegget ttgatetttg 1680 eggagtttt gttgaagttg caaagteetg 1740 egageage agagteegea egeteeggeg 1800 geagaage gagageegag egeggaeeea 1860
<210> 2 <211> 32 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 2 gcacgcgtgc tagccagctg ggccgccctt gt	32
<210> 3 <211> 32 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 3 atccatggaa gctttggggc tcttcctggg ca	32
<210> 4 <211> 34 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 4 gcacgcgtgc tagctggagc ctccagaggg ctc	gt
<210> 5 <211> 10 <212> DNA <213> Homo sapiens	
<400> 5 gagttttgtt	10
<210> 6 <211> 7 <212> DNA <213> Homo sapiens	
<400> 6 gagtttt	7

<210> 7 <211> 16 <212> DNA <213> Homo	sapiens					
<400> 7 cagtaacgtc	acacgg					16
<210> 8 <211> 10 <212> DNA <213> Homo	sapiens		·			
<400> 8 cctccagagg			٠			10
<210> 9 <211> 2395 <212> DNA <213> Homo	sapiens					
<400> 9						
	gggagagcat	tcaggaagat	gacaacagga	taataggtca	acagagtaat	60
	ctaaaaataa					120
	tcaatttcag					180
	ttgaggcaag		_	•		240
	gaccttcagc tggcactctc					300 360
	catgataatt					420
	tgactgatca					480
	ctacatagat					540
	taactatata					600
	acaattttat					660
gtttggatgt	gaggtaggga	tttccacagc	tgcttttagt	ttgaaggaaa	tctgataaga	720
	gcccttcaga					780
	ggtgttttta					840
	tatttgttaa					900
	ttattgctta					960
	cctacaggat					1020 1080
	aaagagatga attctcttaa					1140
	tctaatggat				-	1200
	ttaacttcaa					1260
	tggaaaattt					1320
	atgctttttt					1380
ctttcattga	gtttagtgat	taaagaagta	aagttctgag	aagcaattag	ttgatgggac	1440
-	aaatcaatcc	-				1500
	gtattagtaa					1560
	ttgaaactgg					1620
	agaagtctat					1680
	ttacttacaa aaaacaaaaa					1740 1800
	aggaagtgtg					1860
	tgacagtctt					1920
	aacacagcat					1980
	ccatcagcat					2040
	ggtcagcact					2100
	gcctttatta					2160
	ggatgatggt					2220
ttccctagtc	aatgaactct	catattcttg	tctctggtta	ggatcttggg	atctggagtc	2280

agactgcctg ggctcaaatc ttggctctg gcctcagttt ccacatctga gaaatgggg			2340 2395
<210> 10 <211> 36 <212> DNA <213> Artificial Sequence			
<220> <223> primer			
<400> 10 ttatgatacc tcgaggggag agcattcag	g aagatg		36
<210> 11 <211> 36 <212> DNA <213> Artificial Sequence			
<220> <223> primer			
<400> 11 tgaatcacga agctttggta tcttctggc	a gagaag		36
<210> 12 <211> 24 <212> DNA <213> Homo sapiens			
<400> 12 gatgaatttg tcactttcct tgaa			24
<210> 13 <211> 20 <212> DNA <213> Homo sapiens			
<400> 13 gacatttcaa ggcaagaatg			20
<210> 14 <211> 35 <212> DNA <213> Homo sapiens			
<400> 14 acatttcaag gcaagaatga atatatgga	a gaaga		35
<210> 15 <211> 37 <212> DNA <213> Homo sapiens			
<400> 15 tacgaagcac attttccagg aagtgtggg	c tgcaacg		37
<210> 16 <211> 250 <212> DNA			

<213> Hepatitis B virus	
<pre><400> 16 gcacgtcgca tggagaccac cgtgaacgcc caccaaatat tgcccaaggt cttacataag aggactcttg gactctcagc aatgtcaacg accgaccttg aggcatactt caaagactgt ttgtttaaag actgggagga gttgggggag gagattaggt taaaggtctt tgtactagga ggctgtaggc ataaattggt ctgcgcacca gcaccatgca acttttcac ctctgcctaa tcatctcttg</pre>	60 120 180 240 250
<210> 17 <211> 12 <212> DNA <213> Hepatitis B virus	
<400> 17 gactgtttgt tt	12
<210> 18 <211> 12 <212> DNA <213> Hepatitis B virus	
<400> 18 aggactcttg ga	12
<210> 19 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 19 tacttcaaag actgt	15
<210> 20 <211> 23 <212> DNA <213> Hepatitis B virus	
<400> 20 tacttcaaag actgtttgtt taa	23
<210> 21 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 21 ggctgtaggc ataaa	15
<210> 22 <211> 156 <212> DNA <213> Hepatitus B virus	
<400> 22 ttattatcca gaacatctag ttaatcatta cttccaaact agacactatt tacacactct atggaaggcg ggtatattat ataagagaga aacaacacat agcgcctcat tttgtgggtc accatattct tgggaacaag atctacagca tggggc	60 120 156
<210> 23	

<211> 15 <212> DNA <213> Hepatitis B virus	
<400> 23 ctagttaatc attac	15
<210> 24 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 24 ttatataaga gagaa	15
<210> 25 <211> 306 <212> DNA <213> Hepatitis B virus	
<pre><400> 25 ctaagcaggc tttcactttc tcgccaactt acaaggcctt tctgtgtaaa caatacctga acctttaccc cgttgcccgg caacggccag gtctgtgcca agtgtttgct gacgcaaccc ccactggctg gggcttggtc atgggccatc agcgcatgcg tggaaccttt tcggctcctc tgccgatcca tactgcggaa ctcctagccg cttgttttgc tcgcagcagg tctggagcaa acattatcgg gactgataac tctgttgtcc tatcccgcaa atatacatcg tttccatggc tgctag</pre>	60 120 180 240 300 300
<210> 26 <211> 21 <212> DNA <213> Hepatitis B virus	
<400> 26 tgtaaacaat acctgaacct t	21
<210> 27 <211> 21 <212> DNA <213> Hepatitis B virus	
<400> 27 taccccgttg cccggcaacg g	21
<210> 28 <211> 21 <212> DNA <213> Hepatitis B virus	
<400> 28 gctgacgcaa ccccactgg c	21
<210> 29 <211> 32 <212> DNA <213> Artificial Sequence	
<220> <223> primer	

<400> 29 caccgaagct taagcaggct ttcactttct cg	32
<210> 30 <211> 26 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 30 cagtaccgga atgccaagct tcgatg	26
<210> 31 <211> 214 <212> DNA <213> Vancomycin resistant enterococcus	
<400> 31 gagatgtata taattttta ggaaaatctc aaggttatct ttacttttc ttaggaaatt aacaatttaa tattaagaaa cggctcgttc ttacacggta gacttaatac cgtaagaacg agccgttttc gttcttcaga gaaagatttg acaagattac cattggcatc cccgttttat ttggtgcctt tcacagaaag ggttggtctt aatt	60 120 180 214
<210> 32 <211> 10 <212> DNA <213> Vancomycin resistant enterococcus	
<400> 32 ttaggaaatt	10
<210> 33 <211> 10 <212> DNA <213> Vancomycin resistant enterococcus	
<400> 33 tattaagaaa	10
<210> 34 <211> 10 <212> DNA <213> Vancomycin resistant enterococcus	
<400> 34 cgtaagaacg	10
<210> 35 <211> 6905 <212> DNA <213> Artificial Sequence	
<220> <223> promoter	
<400> 35 tctagaaaat aattcccaat attgaatccc aaagaattca acatttgggc tgtcgtttga aagataagtt gaatttggtc atgaaggaag agagggggga tacaatttca gtaaaaggta	60 120

i i

180 acagcaaggt ccaaagacag tcaggtcttc agtagtatgg agtatattca gagggagcca 240 aqatqtctga tgtgaactaa aaagattggt ggttggtagg aggaagaggt gtgagaagag 300 gctgtaaaga aaaattgaaa cttgattgtg atggacttta aaggctaggc tatgggactt 360 ggacatgaat ctgcaggcca gtgtttgcag actggcgccc ataactgtct atcacagcaa 420 cacagacatg tgttgtttgg cctgcagagg tttggcctgc atgatgattt taaaccatct 480 qaattagtag ccatcatttt caaaaatcaa gagatgccac attaaaaatat ggaatgctgc tgttcttgaa aataatgaaa catctggaac attgaggcca cattcctgac tgacagcaat 540 600 caqttggagc tgcgtagtga ctgcccactt tacatggggc atctgatccc tagtcgatta 660 cagctgccac cacttccctt tatctctcta ataccaagct cttttcactc atttttgtta 720 cttaagagat atttgggttt gaaacctctg atgcaggtaa ttgagggtta tagagcagag 780 qacaqatqct atcaqaqttq tcttttaaqa aaqaaccctc tgttcttcat tttgttqaaq 840 atagcctgga agagggcagc caggggagaa gttagggctg gagctatgag aaagcataag atgagatgat ggcttcaaca ttgaggacag aaagaatatt gagatgagaa agtagtccat 900 960 ataagcatct atgcaaagga aatagcagat gtcctcaaat cagcagaggc aacaactctg aaagtttatt cataagcccc tcttttcatc tccaatccag ttcaaatgta attatttaaa 1020 ttgttcttca ctctccttcc tggatcatga atgagetect taaatgeagg gtccaeagtg 1080 tcctattcat cagtgaattc caagtgccta gcacagagcc tggcaaatag taaatgctta 1140 acaaatattc gttcagtgca tgaattggag tgattctcta ctttgcctca taagttgaaa 1200 1260 aaaggtttat tacataccta aatatgctga aatcacaggg catttggcaa ccccccaaaa 1320 ccaaaactcc cagtttggaa acagaatttt aattctgtga aaataaaatc cattcattta ttcaaaaaat atttattaaa caatgaccat gtccacacca ggctgagtcc taaggattca 1380 atgatgaaca aaaaccaaca tgattcctgc tcttaggaaa catacagttc agtgaggaaa 1440 acagattgtg agaagtcctc caacaaatac tgggtgctat taaaaatatat taaaaggtga 1500 1560 gtgggtgagg gacttgagct agcctaggtg gttcaggaag tcttcctgga tgtgctgata 1620 tgcataggca ttaactagat aaatagagag aaggatgaac caacattgca ggtagaggga acagaatatg caaaggcagg aaggattatg gagtcgttgg aggacctgaa taaaggccca 1680 1740 gtgtaagtgg atctcagaaa acaggaggaa aggtgtatga gatgagatca gagaggcaga 1800 tcatgtgggg tatggttaat gttttggact tttctattaa gagcaatggg gagacagtga 1860 caggacttaa acggggaaat aatatgacca gattaaactt tctaaaaaac cctctatgca 1920 aatatatatt qaqaqttaat tattqacaaa qattcaaaqq caacaaaqtq qaqaqaqaat agtattttca aaaaatggtg ccaaaacaat aggacatcta tattaaaagt tgggtatctg 1980 tctacaaaac ttaattcaaa atggatcaca gacctaaatg taaaactgaa agctatacaa 2040 2100 cttctggaag gaaaacacag atgggaatct gtgtgatctt gagtttgaaa atgatttatt atatctqaca ccataatccq taaqttaaca taattcataa qtgaacaaag tgatgaactg 2160 gacttcatca gaatttaaaa tgtttgtgct tcaaaagaca ctggtatgat aatgaagaca 2220 2280 aactacaqat aaqatattqt tqaatcatat ttctqataaa qqaattqtqq ctcaqaatac 2340 ataactctaa acccccataa taaattacaa gtagcccaat taaaaaaaaa aaaagagaaa 2400 aaatttacag tottoatcaa agaaagtato aattgtaaaa taagcacatg aaaaatgoto 2460 tgcatcttta ttcatggggg gatgaaataa aaattaaatg ggaaagacac ctctaattag 2520 aatactaaaa ttaaaaagac tgaccatacc aagtattggt gaagtggaaa tgtaaaatga tacaatcaac ttaggtagat gatttggaag tttcttacaa aagtaggtgt atacctaccc 2580 tgtgactcac ccattccatg gctaagtatt tacctgagag aaatgaaaga atacatccat 2640 acaaagatgt ttatacaaat atttatagca gttttatttg tagtagcccc aaactgaaaa 2700 2760 gaacccaaat gtccatcaaa agtgaatgga taaacaaagc gtggtacagc aatgcaatag 2820 aatactactt agcaataaag aagaatgagc tagtgatata cataacagct taaatgtaca tcaaaggcat tgtgctcagt gaaagatgca agtaaaaaaa aaaaagagta catgctgtat 2880 2940 agttccattg acataaaact ctggaaagtg aaaaacagtc tatactgaca gaaagcagat 3000 cattggttgc ctgaggagga ggagtatagg agaggtggag ggaaaatgta caaagtggca 3060 caataaaaac ttttggaatc atagatatat tcactatctt gattgagtga tgatttcatg 3120 agtgcacgtg cgtgtgtcaa aaatgatcaa tttatgcaac tttaaaatatg tgcagtttat tgtatatatc aattatacct cagtacggct attaaaaaga aaccctctgg ctgcacaatg 3180 cagaactgat tctaggaaag agtggaggga ggatgaccat ttacagtgct ccaggtggaa 3240 gagaacggtg ccttctggaa gtgaactagg ttggcaacaa cagagatgaa ataaatgggc 3300 3360 agatgtgtga gatacttagg aaataaaacc cgatggtcac cattttccaa aggtcagctc 3420 atcctggctt tccagagcaa agagctaggg aagactttat taataaatcc ctcttgaagt tgcagaggaa gcttatagca gaaacttact ctcaacctga ctaatctgag agaacacctc 3480 tggttccatt tgattactaa aaaactgcaa agaacaggag gagaaagaag aagaaagctg 3540 gtacaaacag tgaacttata taatattaat caataattgt ctcttgttct taaaagcaat 3600 3660 gggaagaaaa tgagatttga gctggaagat cagagttcaa aatccaaata aagtatatgg ccctaatatg cttatagtag ttaacctttc ctgataatga tataattgtt gacagcacca 3720

```
3780
tctttaaaat aaaataacat agtaatcctt cagatttgta gaagatcttt cctgtttaca
                                                                     3840
agtttgttct atacacatta tgtcttttaa atgacacact agccttctga gggtaactta
                                                                     3900
tattqqcaac aqttttcaqa tqtqqaaact qtqaaqacaa tqttqqtqat qtqqaaqcaa
cataaacttt ggagtettte agacccaggt ttgaatgtca gactgetttt tattcagagt
                                                                     3960
                                                                     4020
aacttcagag cattatttct caccttaatt ttttttcagg cctctttgtg tctatgtgtc
ctcttcactc ctgtccattg tttcttcagt gatttttgcc accttccttc actgttagtg
                                                                     4080
tgtagacaca tagttctcct ggctctgaga gcctatgtta attccattct accatcctgc
                                                                     4140
                                                                     4200
cacqqcccac tcaattccta ttgagcaatg ctagttgaaa gttgtggtgg gattaaatgt
                                                                     4260
tgcaatgagt attcaaatga ggttgaagta tctacgcatt ctacttacat atggtgaggt
                                                                     4320
atattcaagg aagctgtagc cattaaaatc tcaggaaata atttttcacc tcctcaggtg
                                                                     4380
aaagggtctt caggcctttg tgttctggaa ggttcattta tagccatttc ccaaatgaca
                                                                     4440
atgcqattqa tqaqtctaqa qtctaqctca aataqcaatq qactqgaaqa ctagtttaqq
ttttactaat qtqqaacata qaacaaatta tqtccttqtt tcaqcctqtt catctqtgaa
                                                                     4500
atagagecta teatatecag tetteettge etttaggttt gagttaeett etttggteaa
                                                                     4560
ggtaagtaaa tgcctatgat gtttggctgt gcacaagata aagctacaac aaagctacaa
                                                                     4620
cccatctttt ctctgtagaa gactcaaaaa gcaaaagaga cccaggaaaa tctcggaatg
                                                                     4680
acttttggaa cagaggcct ccccagaatc agaagtcaag gaatttaaac atagggaagg
                                                                     4740
cccaggtctc tactgacata aaggaaagat gttttcttat aggtttcacg tttacatttt
                                                                     4800
ctctctcttg atcccattcc cacttgcatc tgccaccttt acacagggct tatgggacct
                                                                     4860
cctccacaaa agagcagttg cagtaaccca catcatcctc tacgccctgg ctgtccatca
                                                                     4920
agaggcgaaa agcagcccta tataggttct atccttggat agttccagtt gtaaagttta
                                                                     4980
aaatatgcga aggcaacttg gaaaagcaag cggctgcata caaagcaaac gtttacagag
                                                                     5040
ctctggacaa aattgagcgc ctatgtgtac atggcaagtg tttttagtgt ttgtgtgttt
                                                                     5100
acctgcttgt ctgggtgatt ttgcctttga gagtctggag agtagaagta ctggttaaag
                                                                     5160
gaacttccag acaggaagaa ggcagagaag agggtagaaa tgactctgat tcttggggct
                                                                     5220
gagggttcct agagcaaatg gcacaatgcc acgaggcccg atctatccct atgacggaat
                                                                     5280
                                                                     5340
ctaaggtttc agcaagtatc tgctggcttg gtcatggctt gctcctcagt ttgtaggaga
                                                                     5400
ctctcccact ctcccatctg cgcgctctta tcagtcctga aaagaacccc tggcagccag
gagcaggtat tectategte etttteetee etecetegee ecaceetgtt ggttttttag
                                                                     5460
                                                                     5520
attgggcttt ggaaccaaat ttcctgagtg ctggcctcca ggaaatctgg agccctggcg
                                                                     5580
cctaaacctt ggtttaggaa accaggagct attcaggaag caggggtcct ccagggctag
agetageete teetgeeete geecaegetg egecageaet tgttteteea aageeaetag
                                                                     5640
                                                                     5700
qcaqqcqtta qcqcqcqqtq aggqqaqqqq agaaaaggaa agggqagggg agggaaaagg
aggtqqqaaq qcaaqqaqqc cqqcccqqtq qqqqcqqqac ccqactcqca aactgttqca
                                                                     5760
                                                                     5820
tttgctctcc acctcccagc gcccctccg agatcccggg gagccagctt gctgggagag
cqqqacqqtc cqqaqcaaqc ccacaqqcaq aqqaqqcqac aqaqqqaaaa aqgqccqaqc
                                                                     5880
                                                                     5940
tagccqctcc agtqctqtac agqaqccqaa qqqacqcacc acqccaqccc cagcccqqct
                                                                     6000
ccagegacaq ccaacqcete ttgcagegeg geggettega ageegeegee eggagetgee
                                                                     6060
ctttcctctt cggtgaagtt tttaaaagct gctaaagact cggaggaagc aaggaaagtg
                                                                     6120
cctgqtaqqa ctqacqqctq cctttqtcct cctcctctc accccgcctc ccccaccct
gccttccccc cctcccccgt cttctctccc gcagctgcct cagtcggcta ctctcagcca
                                                                     6180
accecetta ccacettet ceccacege ccecegece eggtegeca gegetgecag
                                                                     6240
cccgagtttg cagagaggta actccctttg gctgcgagcg ggcgagctag ctgcacattg
                                                                     6300
caaagaaggc tettaggage caggegactg gggagegget teageactge ageeacgace
                                                                     6360
cgcctggtta ggctgcacgc ggagagaacc ctctgttttc ccccactctc tctccacctc
                                                                     6420
                                                                     6480
ctcctgcctt ccccacccg agtgcggagc cagagatcaa aagatgaaaa ggcagtcagg
                                                                     6540
tcttcagtag ccaaaaaaca aaacaaacaa aaacaaaaaa caagaaataa aagaaaaaga
                                                                     6600
taataactca gttcttattt gcacctactt cagtggacac tgaatttgga aggtggagga
                                                                     6660
ttttgttttt ttcttttaag atctgggcat cttttgaatc tacccttcaa gtattaagag
                                                                     6720
acagactqtq agcctagcaq qqcaqatctt qtccaccqtq tqtcttcttc tqcacqagac
tttgaggctg tcagagcgct ttttgcgtgg ttgctcccgc aagtttcctt ctctggagct
                                                                     6780
tcccgcaggt gggcagctag ctgcagcgac taccgcatca tcacagcctg ttgaactctt
                                                                     6840
ctgagcaaga gaaggggagg cggggtaagg gaagtaggtg gaagattcag ccaagctcaa
                                                                     6900
                                                                     6905
ggatg
```

<210> 36

<211> 43 <212> DNA

<213> Artificial Sequence

<220> <223> primer	
<400> 36 cacgcgtggt acctctagaa aataattccc aatattgaat ccc	43
<210> 37 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 37 agctggctcc ccgggatctc ggaggggcgc	30
<210> 38 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 38 cacgcgtggt accagacagt gacaggactt aaacggggaa at	42
<210> 39 <211> 16 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 39 agctggctcc ccggga	16
<210> 40 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 40 cacgcgtggt acctatacac attatgtctt ttaaatgac	39
<210> 41 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 41 agctggctcc ccgggatctc ggaggggcgc	30

<210> <211> <212> <213>	39	
<220> <223>	primer	
<400> cacgco		39
<210> <211> <212> <213>	30	
<220> <223>	primer	
<400> ccgcca		30
<210> <211> <212> <213>	30	
<220> <223>	primer	
<400> ccgggt		30
<210> <211> <212> <213>	30	
<220> <223>	primer	
<400> agctgg	45 getee eegggatete ggagggege	30
<210> <211> <212> <213>	30	
<220> <223>	primer	
<400> ccgggt	46 tacct gecetegece aegetgegee	30
<210><211><211><212><213>	30	

<220> <223> primer	
<400> 47 agctggctcc ccgggatctc ggagggcgc	30
<210> 48 <211> 54 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 48 cagaacattt ctctatcgat aggtaccgag caggtattcc tatcgtcctt ttcc	54
<210> 49 <211> 54 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 49 ggaaaaggac gataggaata cctgctcggt acctatcgat agagaaatgt tctg	54
<210> 50 <211> 54 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 50 cagaacattt ctctatcgat aggtaccaaa tctggagccc tggcgcctaa acct	54
<210> 51 <211> 54 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 51 aggtttaggc gccagggctc cagatttggt acctatcgat agagaaatgt tctg	54
<210> 52 <211> 51 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 52	

cagaacattt ctctatcgat aggtaccggc gttagcgcgc ggtgagggga g 5	1
<210> 53 <211> 51 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 53 teteceteae egegegetaa egeeggtaee tategataga gaaatgttet g 5	1
<210> 54 <211> 57 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 54 cagaacattt ctctatcgat aggtaccggg aaaaggaggt gggaaggcaa ggaggcc 5	7
<210> 55 <211> 57 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 55 ggcctccttg ccttcccacc tccttttccc ggtacctatc gatagagaaa tgttctg 5	7
<210> 56 <211> 60 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 56 cagaacattt ctctatcgat aggtaccctc gcaaactgtt gcatttgctc tccacctccc 6	0
<210> 57 <211> 60 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 57 gggaggtgga gagcaaatgc aacagtttgc gagggtacct atcgatagag aaatgttctg 6	0
<210> 58 <211> 65 <212> DNA	

<213> Artificial Sequence	
<220> <223> primer	
<400> 58 ccagtgctgt acaggagccg aagggacgca ccccatggaa gacgccaaaa acataaagaa aggcc	60 65
<210> 59 <211> 63 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 59 cctttcttta tgtttttggc gtcttccatg gggtgcgtcc cttcggctcc tgtacagcac tgg	60 63
<210> 60 <211> 59 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 60 ccacaggcag aggaggcgac agagggccat ggaagacgcc aaaaacataa agaaaggcc	59
<210> 61 <211> 57 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 61 cetttetta tgtttttgge gtetteeatg geeetetgte geeteetetg cetgtgg	57
<210> 62 <211> 63 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 62 gggagagcgg gacggtccgg agcaagccca ccatggaaga cgccaaaaac ataaagaaag gcc	60 63
<210> 63 <211> 63 <212> DNA <213> Artificial Sequence	

<220> <223> prim	er					
<400> 63 ggcctttctt ccc	tatgtttttg	gcgtcttcca	tggtgggctt	gctccggacc	gtcccgctct	60 63
<210> 64 <211> 17 <212> DNA <213> Homo	sapiens					
<400> 64 tgttgcattt	gctctcc					17
<210> 65 <211> 16 <212> DNA <213> Homo	sapiens				,	
<400> 65 gctctccacc	tcccag					16
<210> 66 <211> 25 <212> DNA <213> Homo	sapiens					
<400> 66 ggtgagggga	ggggagaaaa	ggaaa				25
<210> 67 <211> 2167 <212> DNA <213> Homo	sapiens					
<400> 67						
	aaaacctaga	tctgccccag	tataactaaa	tctgggacca	tttattgagc	60
	tgccaagtat					120
gcatagtatg	tcagatgctg	ttttacagat	gagccaactg	agaccagaga	tgctcagtca	180
cttgcccaag	gtgacatgac	tgatatggaa	tagagtcaag	atttttttt	ttttttttga	240
cacggagtct	cactctgtct	cccaggctgg	agtgcagagg	cgcaatctca	gctcactgca	300
	cccaggttca					360
	caccacacct					420
	ggatggtctc					480
	ttacaggtgt					540
	cccagaggcc	_	_			600
	cctgcttaag					660
	aggtgtggga					720 780
	gtccctgata					840
	attccaacta					900
	tttcagataa aattaaaaaa					960
	atagggtcag					1020
	aggcaagggg					1080
	caagaagggt					1140
	cgtggttgta					1200
	ttcaagacca					1260
	agctggtcat					1320
	tcacttgaac					1380

gctctccagc ctgggcaaca agagcaaaag ttcgtttaaa aaaaaaaaa agtcctttcg atgtgactgt ctcctccaa atttgtagac cctcttaaga tcatgctttt cagatacttc aaagattcca gaagatatgc cccgggggtc ctggaagcca caaggtaaac acaacacac cccctccttg actatcaatt ttactagagg atgtggtggg aaaaccatta tttgatatta aaacaatagg cttgggatgg agtaggatgc aagctccca ggaagttaga taactgagac ttaaagggtg ttaagagtgg cagcctaggg aaatttatcc cggactccgg gggagggggc agagtcacca gcctctgcat ttagggattc tccgaggaaa agtgtgagaa cggctgcagg caacccaggc gtcccggcgc taggagggac gacccaggcc tgcgcgaaga gagggagaaa gtgaagctgg gagttgccga ctcccagact tcgttggaat gcagttggag ggggggagct gggaggggcccc ttgcccaa tcaccggaga aggaggaggt ggaggaggaggaggaggaggaggaggaggaggaggagga	1440 1500 1560 1620 1680 1740 1800 1920 1980 2040 2100 2160 2167
<210> 68 <211> 32 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 68 gcacgcgtaa gcttcaggcc ccacaaaacc ta	32
<210> 69 <211> 35 <212> DNA <213> Artificial Sequence	
<220> <223> primer	
<400> 69 cgctcgagcc atggctccgg ctggacccgg ctggg	35
<210> 70 <211> 10 <212> DNA <213> Homo sapiens	
<400> 70 gaatgaagtt	10
<210> 71 <211> 15 <212> DNA <213> Homo sapiens	
<400> 71 cgcttgctcc caatc	15
<210> 72 <211> 13 <212> DNA <213> Homo sapiens	
<400> 72 gaggaaggta taa	13

<210> 73 <211> 135 <212> DNA <213> Escherichia coli	
<400> 73 gacgtcaggt ggcacttttc ggggaaatgt gcgcggaacc cctatttgtt tattttcta atacattcaa atatgtatcc gctcatgaga caataaccct gataaatgct tcaataatat tgaaaaagga agagt	60 120 135
<210> 74 <211> 136 <212> DNA <213> Escherichia coli	
<400> 74 gacgtcaggt ggcacttttc ggggaaatgt gcgcggaacc cctatctgtt tgttcttcta gacacattca cacatgtatc cgctcatgag acaataaccc tgataaatgc ttcaatgaca ttgagaaagg aagagt	60 120 136
<210> 75 <211> 12 <212> DNA <213> Escherichia coli	
<400> 75 aatacattca aa	12
<210> 76 <211> 12 <212> DNA <213> Escherichia coli	
<400> 76 catgagacaa ta	12
<210> 77 <211> 12 <212> DNA <213> Escherichia coli	
<400> 77 accctgataa at	12
<210> 78 <211> 12 <212> DNA <213> Escherichia coli	
<400> 78 ttgaaaaagg aa	12
<210> 79 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	

cccggggggc	10
<210> 80 <211> 10 <212> DNA <213> Vancomycin resistant enterococcus	
<400> 80 taattttta	10
<210> 81 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> binding indicator duplex	
<221> misc_feature <222> (1)(1) <223> 5' nucleotide labeled with fluorescein	
<400> 81 ctttattatt tt	12
<210> 82 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> binding indicator duplex complement	
<221> misc_feature <222> (1)(1) <223> 5' nucleotide labeled with a dabsyl quenching molecule	
<400> 82 aaaataataa ag	12
<210> 83 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 83 aacaacagta acgtcacacg gact	24
<210> 84 <211> 22 <212> DNA <213> Artificial Sequence	
<220>	

<223> mutant sequence	
<400> 84 aaaaaaata cgcgtgaatg ga	22
<210> 85 <211> 19 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 85 tcaccagttc ttggactgt	19
<210> 86 <211> 17 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 86 ggaattggat cccattt	17
<210> 87 <211> 16 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 87 ggggggggat ccttct	16
<210> 88 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 88 tgcgctttta attaaaaccc t	21
<210> 89 <211> 16 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 89	16

	<210> 90 <211> 16 <212> DNA <213> Artificial Sequence	
	<220> <223> mutant sequence	
	<400> 90 cagtaaggtc acacgg	16
٦,	<210> 91 <211> 16 <212> DNA <213> Artificial Sequence	
	<220> <223> mutant sequence	
	<400> 91 cagtaagctc acacgg	16
	<210> 92 <211> 22 <212> DNA <213> Homo sapiens	
	<400> 92 aaaaaaaatg agtcagaatg ga	22
	<210> 93 <211> 19 <212> DNA <213> Homo sapiens	
	<400> 93 tcagaatgga gatcactgt	19
	<210> 94 <211> 17 <212> DNA <213> Homo sapiens	
	<400> 94 ggaattttcg ggcattt	17
	<210> 95 <211> 16 <212> DNA <213> Homo sapiens	
	<400> 95 ggggcgattt gcttct	16
	<210> 96 <211> 21 <212> DNA <213> Homo sapiens	
	<400> 96	

tgcgcccgcc cccgccccc t	21
<210> 97 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 97 tctgggatcc	10
<210> 98 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 98 tctggttgtt	10
<210> 99 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 99 gagttggcgg	10
<210> 100 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 100 tctttttgtt	10
<210> 101 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 101 gatgggattt	10
<210> 102 <211> 10 <212> DNA	

<213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 102 gagtttttcc	10
<210> 103 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 103 gagttttttt taag	14
<210> 104 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutant sequence	
<400> 104 gagttttaaa agag	14
<210> 105 <211> 11 <212> DNA <213> Homo sapiens	
<400> 105 ttgtcacttt c	11
<210> 106 <211> 12 <212> DNA <213> Homo sapiens	
<400> 106 ggcaagaatg aa	12
<210> 107 <211> 12 <212> DNA <213> Homo sapiens	
<400> 107 agcacatttt cc	12
<210> 108 <211> 12 <212> DNA <213> Homo sapiens	
<400> 108	

	ttttccagga	ag	12
	<210> 109 <211> 12 <212> DNA		
	<213> Homo	sapiens	
	<400> 109 ttttcctgtg	gg	12
	<210> 110 <211> 12 <212> DNA <213> Homo	sapiens	
	<400> 110 ttttccctgc	aa	12
),	<210> 111 <211> 11 <212> DNA <213> Homo	sapiens	
	<400> 111 tgtggctgca	a	11
	<210> 112 <211> 18 <212> DNA <213> Homo	sapiens	
	<400> 112 ttttccagga	agtgtggg	18
	<210> 113 <211> 18 <212> DNA <213> Homo	sapiens	
	<400> 113		
	agcacatttt	cctgtggg	18
	<210> 114 <211> 18 <212> DNA <213> Homo	sapiens	
	<400> 114 ttttcctgtg	ggctgcaa	18
	<210> 115 <211> 15 <212> DNA <213> Artif	ficial Sequence	
	<220>		
	<223> linke	er scanner	
	<400> 115 tacatgatat	cttct	15

<210> 116 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 116 caagaattcc cataa	15
<210> 117 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 117 acaacccgcg gtaaa	15
<210> 118 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 118 ccttgaggca cgcgt	15
<210> 119 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 119 gacgtccgtg accat	15
<210> 120 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 120 caatcaagat cttac	15
<210> 121 <211> 15 <212> DNA <213> Artificial Sequence	

<223>	linker scanner	
<400> gcagga		15
<210> <211> <212> <213>	15	
<220> <223>	linker scanner	
<400> tcttct		15
<210> <211> <212> <213>	15	
<220> <223>	linker scanner	
<400> tctcgg		15
<210> <211> <212> <213>	10	
<220> <223>	linker scanner	
<400> gtgcac		10
<210><211><211><212><213>	15	
<220> <223>	linker scanner	
<400> ttagtg		15
<210> <211> <212> <213>	15	
<220> <223>	linker scanner	
<400>	126	

gelegageal acade	13
<210> 127 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
<400> 127 tacaacgtac ccggg	15
<210> 128 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> linker scanner	
.<400> 128 ggacaagctt aagcc	15
<210> 129 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 129 gcacgtcgca tggag	15
<210> 130 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 130 accaccgtga acgcc	15
<210> 131 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 131 caccaaatat tgccc	15
<210> 132 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 132 aaggtcttac ataag	15
<210> 133 <211> 15 <212> DNA <213> Hepatitis B virus	

<400> 133 tcagcaatgt caacg	15
<210> 134 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 134 accgaccttg aggca	15
<210> 135 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 135 gaggagttgg gggag	15
<210> 136 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 136 gagattaggt taaag	15
<210> 137 <211> 10 <212> DNA <213> Hepatitis B virus	
<400> 137 tgtactagga	10
<210> 138 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 138 ttggtctgcg cacca	15
<210> 139 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 139 gcaccatgca acttt	15
<210> 140 <211> 15 <212> DNA <213> Hepatitis B virus	
<400> 140 ttcacctctg cctaa	15

<210> 141 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 141 ccagggccc ga	12
<210> 142 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 142 gccgcggtct gt	12
<210> 143 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 143 cgtccgcggt ga	12
<210> 144 <211> 13 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 144 tcgcgaacgg cag	13
<210> 145 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 145 acagcgcgca ca	12
<210> 146 <211> 10 <212> DNA <213> Artificial Sequence	

<220> <223> mutated sequence	
<400> 146 cgatatctgc	10
<210> 147 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 147 gcggcgaact gcacg	15
<210> 148 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 148 agccgcggga cggca	15
<210> 149 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 149 ggaacccagc tgaca	15
<210> 150 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 150 gcgcgcacac agagc	15
<210> 151 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 151 gtctgcagtt tgcgc	15

<210> 152 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 152 ggcgcgcctc tctcc	15
<210> 153 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 153 cagctgacgc tataa	15
<210> 154 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 154 gacgggccct ttgag	15
<210> 155 <211> 13 <212> DNA <213> Hepatiitis B virus	
<400> 155 gttaatcatt act	13
<210> 156 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 156 tcgcatcatt ac	12
<210> 157 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	

<400> 157 gttccgaatt ac	12
<210> 158 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 158 gttaatacgg ac	12
<210> 159 <211> 13 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 159 gttaatcatg cag	13
<210> 160 <211> 13 <212> DNA <213> Artificial Sequence	
<220> <223> consensus sequence	
<221> misc_feature <222> (1)(13) <223> n = A,T,C or G	
<400> 160 gttaatnatt aac	13
<210> 161 <211> 14 <212> DNA <213> Hepatitis B virus	
<400> 161 gttaatcatt áctt	14
<210> 162 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 162 tcgcagacgg cagt	14

<211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 163 gttgatcatt actt	14
<210> 164 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 164 gttactcatt actt	14
<210> 165 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 165 gttagtcatt actt	14
<210> 166 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 166 gttaagcatt actt	14
<210> 167 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 167 gttaaccatt actt	14
<210> 168 <211> 14 <212> DNA <213> Artificial Sequence	

<220> <223> mutated sequence	
<400> 168 gttaatcagt actt	14
<210> 169 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 169 gttaatcact actt	14
<210> 170 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 170 gttacccatt actt	14
<210> 171 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 171 gttactcact actt	14
<210> 172 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 172 cctacttcgc gacagggaga t	21
<210> 173 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 173 aaccagggcc cttatgggag t	21

<210> 174 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 174 gtgcccatcg cgagtccaag g	21
<210> 175 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 175 gcaaaatggg atatcaccat t	21
<210> 176 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 176 aactgcagtg taacctgtgg g	21
<210> 177 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 177 tacagatatc aaaaacagtt a	21
<210> 178 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 178 gttttaggat atcgtttaac g	21
<210> 179 <211> 21 <212> DNA <213> Artificial Sequence	

<220> <223>	mutated sequence	
<400> actata	179 acgga tatcccaagg g	21
<210> <211> <212> <213>	21	
<220> <223>	mutated sequence	
<400> gattac	180 caaga gatatcgaac g	21
<210> <211> <212> <213>	21	
<220> <223>	mutated sequence	
<400> cagtat	181 ttcca gaagatatca g	21
<210> <211> <212> <213>	21	
<220> <223>	mutated sequence	
<400> gtggg		21
<210> <211> <212> <213>	21	
<220> <223>	mutated sequence	
<400> ttctac		21
<210> <211> <212> <213>	21	
<220> <223>	mutated sequence	
<400>	184	

tcgccagagt cgcgaagcga a	21
<210> 185 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 185 ctcgccaact tacaaggcct	20
<210> 186 <211> 16 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 186 tttctgtgta aacaat	16
<210> 187 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 187 ccccgttgcc cggcaacggc c	21
<210> 188 <211> 14 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 188 ctgacgcaac cccc	14
<210> 189 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 189 tggggcttgg tcatgggcca	20
<210> 190 <211> 20 <212> DND	

<213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 190 tggtcatggg ccatcagcgc	20
<210> 191 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 191 atcagcgcat gcgtggaa	18
<210> 192 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 192 ttccccggga	10
<210> 193 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 193 cctaggcgag	10
<210> 194 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 194 ggcgcgcgga	10
<210> 195 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	

gcgcgcccgg	10
<210> 196 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 196 ccacgcgcgc	10
<210> 197 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 197 gcgcgctccc	10
<210> 198 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 198 attggtacca	10
<210> 199 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 199 ggcgcgctgc	10
<210> 200 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 200 tcagcgcgca	10
<210> 201 <211> 10	

<212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 201atgcgcgcat	10
<210> 202 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 202 ttaacgggga	10
<210> 203 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 203 tggagcgcgc	10
<210> 204 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 204 tccgcgcgct	10
<210> 205 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 205 cacgcgcgca	10
<210> 206 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	

<400> 206 acggaattca	10
<210> 207 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 207 aaagcgcgcg	10
<210> 208 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 208 ggtaccaagg	10
<210> 209 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 209 gacagetget	10
<210> 210 <211> 10 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 210 ttggttaacg	10
<210> 211 <211> 39 <212> DNA <213> Homo sapiens	
<400> 211 gagctgggag cgcgcttgct cccaatcacc ggagaagga	39
<210> 212 <211> 39 <212> DNA <213> Artificial Sequence	

<220> <223> mutated sequence	
<400> 212 gatggatcct atataccgct cccaatcacc ggagaagga	39
<210> 213 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 213 gagctgggag cgcgcttgct ccaggatcca ttcacctga	39
<210> 214 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 214 gagctgggag cgatggatcc aaaccgaacc ggagaagga	39
<210> 215 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 215 gagctgggag cgcgcggatc caatatcacc ggagaagga	39
<210> 216 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 216 gagctgggag cgcgcttgag gatccgaacc ggagaagga	39
<210> 217 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 217	

gagetgggag egegetttag atetateace ggagaagga 39	9
<210> 218 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 218 gagctgggag cgcgctaagc ttcaatcacc ggagaagga 39	9
<210> 219 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 219 gagctgggag caatggatcc accaatcacc ggagaagga 39	9
<210> 220 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 220 gagctgggag cgcgctttag accaatcacc ggagaagga 39	9
<210> 221 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 221 gagctgggat aggatcetet eccaateace ggagaagga 39	9
<210> 222 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 222 gagctgggag cgcgcttgct caaggatcca gaggaagga 39	9
<210> 223 <211> 39 <212> DNA	

<213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 223 gagcggatcc cgcgcttgct cccaatcacc ggagaagga	39
<210> 224 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 224 gagctgggag ggatcctgct cccaatcacc ggagaagga	39
<210> 225 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 225 gagctgggag cgcgcttgct ccaagcttcc ggagaagga	39
<210> 226 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 226 gagctgggag cgcgcttgct ccggatcccc ggagaagga	39
<210> 227 <211> 27 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 227 cttgaggaag gatccgaatg aagttgt	27
<210> 228 <211> 27 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	

<400> 228 cttgaggaag tataatccgg aagttgt	27
<210> 229 <211> 27 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 229 ctttcgatcg gatccgccgg aagttgt	27
<210> 230 <211> 30 <212> DNA <213> Homo sapiens	
<400> 230 ctgcttgagg aagtataaga atgaagttgt	30
<210> 231 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 231 ccggccggac cc	12
<210> 232 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 232 acgcgtcacc gc	12
<210> 233 <211> 12 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 233 caaagtcgac cg	12
<210> 234 <211> 12 <212> DNA <213> Artificial Sequence	

<220> <223> mutated sequence	
<400> 234 gggcccctt cc	12
<210> 235 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 235 ttcacacatg tatccgctca tgagacaata accctgataa at	42
<210> 236 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 236 tttaaatatg tatccgctca tgagacaata accctgataa at	42
<210> 237 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 237 ttcacacatg tatccgctca tgagataata attctgataa at	42
<210> 238 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 238 ttcacacatg tatccgctca tgagacaata accetgatga at	42
<210> 239 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> mutated sequence	
<400> 239 ttcacacatg tatccgctca tgagacaata attttgacga at	42

<210> <211> <212> <213>	42	
<220> <223>	mutated sequence	
<400> ttcaca	240 acatg tatccgctca tgagacaata acttttataa at	42
<210> <211> <212> <213>	19	
<400> agaca	241 ctatt tacacactc	19
<210> <211> <212> <213>	19	
<400> ggtata	242 attat ataagagag	19
<210><211><212><212><213>	18	
<220> <223>	mutated sequence	
<400> ggata	243 tgcgc gccgagag	18
<210> <211> <212> <213>	19	
<400> ctagt1	244 taatc attacttcc	19
<210> <211> <212> <213>	19	
<220> <223>	mutated sequence	
<400> ctatc	245 geega eggeagtee	19
<210> <211>		

<212> DNA <213> Artificial Sequence

<220> <223> mutated sequence

<400> 246 ctagttaata attaattcc

19